

## REMARKS

The claims retained in the application are claims 1, 2, 4-10, and 13-26 of these, claims 1, 4, 8 and 21 have been amended. The entirety of claim 3 has been incorporated by amendment into claim 1, and claim 3 has therefore been cancelled without prejudice. Claims 11-12 and 27 have also been cancelled without prejudice. New claims 28-31 have been added.

## Claim Rejections – 35 U.S.C. § 112

Claims 3 (now 1), 4, 11, 14, 16, 24 and 27 were rejected as being indefinite on the ground that it is not clear what is meant by “substantially” in the phrase “substantially free of grit”. The problem of grit formation has been described at page 2, line 13 to page 4, line 6 of the specification, and remedies for the problem have been described throughout the specification as resulting in a composition “substantially free of grit”, or equivalent terminology, because such terminology is clearly understood in the paper industry. Attached hereto is the Declaration of Leonard Schliesman attesting to the clear meaning ascribed to the term by those skilled in the art. To the artisan, the term is not indefinite and it therefore serves to particularly point out and distinctly claim the subject matter, which applicants regard as this invention.

Claim 5 was rejected as being indefinite on the ground that it is not clear what is meant by the word “low” in the term “low molecular weight, partially hydrolyzed polyvinyl alcohol”. This term likewise is clearly understood by those skilled in the art,

and is also attested to in the attached Declaration of Leonard Schliesman. To the artisan, the term is not indefinite.

Claims 8 and 21 were rejected as being indefinite on the ground that it was not clear what was being claimed, i.e., a method of making a coating composition or a method of making an ink jet recording medium. This rejection has been overcome by amending claims 8 and 21 to clearly define a method of making an ink jet recording medium by applying to a substrate a specified coat-weight of a coating composition prepared or made in accordance with the method of claim 1 or claim 13, respectively, and drying the coating.

Considered in light of the foregoing, it is submitted that the pending claims are clear and definite and particularly point out and distinctly claim the subject matter which the applicants regard as this invention.

It is requested that the rejections under 35 U.S.C. § 112 be withdrawn.

**Claim Rejections – 35 U.S.C. § 102(e)**

Claims 1 and 2 have been rejected under 35 U.S.C. § 102(e) as being anticipated by *Fukushima et al.* To overcome the rejection, claim 1 has been amended to include the limitations of claim 3, namely that the solids content of the coating composition is at least 30% and that the coating composition is substantially free from grit. In the Office Action, it is conceded that *Fukushima et al.* does not disclose the solids content limitation, thus independent claim 1, and claim 2 which depends therefrom is not anticipated.

**Claim Rejections – 35 U.S.C. § 103(a)**

**Claim 1:**

As mentioned above, claim 1 as amended contains the subject matter of claim 3. Claim 3 stands rejected under 35 USC §103 over *Fukushima et al.* It is submitted that *Fukushima et al.*, does not disclose or suggest the claimed method. Reconsideration is requested.

Claim 1 as amended calls for a solids content of at least 30%. In section 7 of the Official Action, it is conceded that *Fukushima et al.*, does not disclose a solids content. However, data is provided in Example 1 from which solids content can be calculated. The coating composition of Example 1 has a total of 174 parts solids and 1330 parts water, resulting in 13% solids. See Schliesman Declaration ¶ 5. The comparatively low coat weights referenced in *Fukushima et al.*, (0.3 – 4.5 g/m<sup>2</sup>) are consistent with a low solids coating composition. Id. The solids content of *Fukushima et al.* is "low solids" as that term is used in Applicant's specification. See specification page 2, line 21 to page 3, line 6.

The Examiner asserts: "However, one of ordinary skill in the art would have recognized that the solids content of the composition affects drying time, rheology, etc. of the coating composition." No citation has been provided in support of this statement. It is submitted that Examiner has not made out a *prima facie* case of obviousness because there is no citation to a prior art reference that discloses, teaches or suggests increasing solids content to 30% or more in a coating composition comprised of

interactive ingredients, such as the cationic fixing agent and a styrene acrylic sizing agent required by claim 1.

"To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."

M.P.E.P. §2142 (emphasis added).

In the present application, it is submitted that the Examiner has not established a *prima facie* case of obviousness because the cited prior art reference (*Fukushima et al.*) admittedly does not teach or suggest all of the claim limitations. "If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness." M.P.E.P. §2142.

Although the burden remains on the Examiner, Applicant attaches hereto a Declaration of Leonard Schliesman, an inventor in the subject application, who has 37 years experience in the paper and pulp industry. The Schliesman Declaration establishes that it would be nonobvious to increase the solids content of the *Fukushima et al.* reference. The Schliesman Declaration explains that at low solids content unwanted interaction of constituents is not a problem. As solids content increases, the potential for interaction and grit formation increases correspondingly. Schliesman ¶ 7. See also,

Applicant's specification page 2, lines 21-24 (Increasing solids contents above 25% can cause agglomeration problems).

Accordingly, it is submitted that the citation of *Fukushima et al.*, does not make out a *prima facie* case of obviousness because (1) the reference does not disclose expressly or inherently the "at least 30% solids content" limitation of the claim, and (2) provides no suggestion for achieving that solids content without causing unwanted interactions between constituents. Accordingly, it is submitted that claim 1 is non-obvious.

In paragraph 15 of the Official Action, claims 1, 2 and 8 were rejected under 35 USC §103 over *Ohmori et al.* in view of *Fukushima et al.* The *Ohmori et al.* reference suffers the same deficiency as the *Fukushima et al.* reference. *Ohmori et al.* mentions solids contents of 25% in examples 1 and 4 - which is well below the minimum solids content claimed by Applicants. Further, it is noted the column and line citations relied upon by the Examiner refer to a "back coating layer formed on the opposite surface of the recording surface." *See, Ohmori et al.* at col. 5, lines 31-32. Thus, claim 1 and dependent claim 2 and 8 are nonobvious over these references.

### **Claims 2-10:**

Claims 2-10 are nonobvious over the cited references for the same reasons as claim 1 and for the additional limitations set forth in those claims in combination. In particular, *Fukushima et al.*, does not suggest the 35-38% solids content limitation of claim 4.

Claim 7 stands rejected under 35 U.S.C. § 103 on *Fukushima et al.*, in view of *Oliver et al.*, and *Franses et al.* *Oliver et al.*, mentions heating an aqueous solution of polyvinyl alcohol to 90-95°C for 30 minutes, and subsequently cooling the polyvinyl alcohol solution. It is submitted that this is a standard way of preparing a polyvinyl alcohol binder. *Oliver et al.*, does not remotely suggest (a) cooling the coating composition dispersion, (b) prior to adding a sizing agent.

*Franses et al.*, does not fill the void. *Franses et al.*, discloses a method of producing microparticulate latex. The reference is not concerned with formation of coating compositions comprised of interactive constituents. The passage of *Franses et al.*, cited in the Office Action involves polymer microparticles, in an organic transfer solvent, at a solids content by volume of 0.03 – 0.2 percent. This disclosure is wholly irrelevant to the formation of aqueous coating compositions relevant to the subject application. One skilled in the art of papermaking and coating would not look to *Franses et al* for solutions to agglomeration caused by interaction of sizing agents with cationic agents in aqueous dispersions having solids contents of 30% or more. The cited phrase from *Franses et al.*, is taken out of context. It is submitted that the reference provides no motivation or suggestion to modify the methods of either *Fukushima et al.*, or *Oliver et al.*.

For the forgoing reasons, it is submitted that claim 7 is non-obvious over the cited references.

**Claims 11-12:**

Claims 11-12 have been canceled without prejudice.

**Claim 13:**

Independent claim 13 calls for a specific sequential method. The claim stands rejected under 35 U.S.C. § 103 as being unpatentable over *Fukushima et al.* In the Office Action, it is conceded that *Fukushima et al.*, does not disclose the sequential order of addition. Office Action Section No. 11. The Examiner contends that it would have been obvious to one of ordinary skill in the art to add the ingredients in any order, including that presently claimed. As with claim 1, a *prima facie* case of obviousness has not been shown. The "prior art reference (or references when combined) must teach or suggest all the claim limitations." M.P.E.P. §2142 (emphasis added).

The attached Declaration of Leonard Schliesman shows that "any order" of addition will not work. See also, Applicants specification at page 14, line 14 through page 17, line 11. "Any order" will result in agglomeration and grit. As explained in the Schliesman Declaration, *Fukushima et al.*, has low solids (13%) and thus does not confront the problems confronted by Applicant at high solids (30% plus). Thus, it is submitted that Applicant has shown that the sequential order is non-obvious.

It is noted that in Section 11 of the Office Action, the Examiner contends that it is Applicant's burden to establish by "clear and convincing evidence" that the sequential order is nonobvious. It is submitted that this legally incorrect. First, the Examiner has not made out a *prima facie* case to thereby shift the evidentiary burden to

Applicant. Second, even if a *prima facie* case of obviousness had been made, there is no legal authority for the assertion that "clear and convincing evidence to the contrary" is required to rebut the *prima facie* case. The standard of proof remains the ordinary preponderance of the evidence standard, i.e., more probable than not. M.P.E.P. §2142.

It is submitted that a *prima facie* case of obviousness has not been made relatively to independent claim 13, and that Applicant has demonstrated the non-obviousness of the subject matter by reference to the specification and supporting Declaration of Leonard Schliesman.

**Claims 14-23:**

Claims 14-23 are dependent on claim 13 and are allowable for the same reasons as advanced relative to claim 13 and for the additional features, in combination, recited in claims 14-18. In particular the cited references do not suggest the solids content of claims 14 and 16, as discussed above. Further, *Fukushima et al.* does not disclose the pH range of claim 15.

*Oliver et al.* and *Franses et al* do not teach the cooling steps of claims 17 and 18, as discussed above relative to claim 7.

The specific levels of constituents in claim 19 is not disclosed in *Fukushima et al.*, as admitted by the Examiner. No secondary reference is cited to meet these features of the claim and thus a *prima facie* case of obviousness has not been made.

As to claim 20, *Akiya et al.* discloses alumina but does not disclose the method sequence claimed.

The coat weight of claims 21-23 is not disclosed in *Fukushima et al.* Indeed, *Fukushima et al* calls for substantially lower coat weights.

**Claim 24:**

Independent claim 24 stands rejected under 35 USC §103 over *Fukushima et al.* in view of *Oliver et al.* and *Frances et al.* Applicant requests reconsideration for all of the same reasons as advanced above relative to claims 1, 7, 13 and 24.

**Claims 25 and 26:**

Claims 25 and 26 are allowable for the same reasons as claim 24 and for the additional reasons that the cited references do not suggest the pH range of claim 25 or solids content of claim 26.

**Claim 27:**

Claim 27 has been cancelled without prejudice.

**New Claims 28-31:**

New claims 28-31 have been presented to more clearly define and claim the method of the invention. Favorable consideration is requested.

In consideration of the above, it is believed that the application is in a form suitable for allowance, and early issuance of a Notice of Allowance is earnestly solicited.

Should the Examiner consider it helpful to discuss any matters addressed herein, he is urged to contact the undersigned by telephone at the below number.

Respectfully submitted,  
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